MODEL PROJECT INFORMATION SHEET

UPGRADING RADIATION THERAPY SERVICES

MONGOLIA - MON/6/006

SUMMARY

The incidence of cancer in Mongolia is high (19/10,000) and has doubled in the last 10 years. This model project aims at improving radiotherapy services at the only cancer research institute in the country, the State Oncological Research Centre, which are deteriorating as a result of the economic collapse. Teletherapy and brachytherapy facilities with the appropriate software and infrastructure will replace the old Russian equipment, most of which is not functioning. Improving and extending teletherapy and brachytherapy services will make a significant contribution to human health in general and to women in particular.

Project duration: 2 years. Total budget: US $360,200.

INTRODUCTION

According to the World Health Organization (WHO), the global incidence of cancer is expected to increase to about 15 million new cases by the year 2015, about two thirds of which would occur in developing countries. For years to come, radiotherapy will be the most important treatment for most cancerous tumours, both for cure and palliation. In developing countries cancer is the second cause of death, but the high cost of comprehensive cancer treatment is a major problem. Furthermore, in many developing countries, radiation therapy is often performed with antiquated cobalt-60 units, the radioactive sources of which are long decayed, thus rendering the treatment inefficient.

Mongolia is facing severe economic collapse owing to the abrupt deterioration in economic relations with the former USSR. The present situation has resulted in decreased funding and critical shortages for the health sector, although WHO and other donor organizations are providing basic medical services.

The incidence of cancer in Mongolia is, as expected, relatively high, and reported cases of cancer have doubled during the last ten years. About 2500 to 3000 cancer patients are detected each year. Radiotherapy in Mongolia is centralized at the State Oncological Research Centre, Ulan Bator, which has 220 beds of which 70 are available for radiological treatment, 65 medical doctors and over 300 technical and paramedical staff. The Centre was built with the assistance of the former USSR through bilateral co-operation, and all the equipment, most of which is at present not functioning, was supplied in 1981. The Centre has three radiotherapy units, but only one is currently usable for radiotherapy; it is in any case unreliable since the cobalt-60 source has decayed by more than two half-lives. Cancer patients do not have access to reliable radiotherapy treatment, and it is therefore necessary to upgrade the existing radiotherapy services and to save the only oncology centre in the country from further deterioration. The project holds considerable potential for exploitation of capabilities of neighbouring countries through TCDC.

OBJECTIVES

1. To improve radiotherapy and the utilization of equipment, thus increasing the survival rate of cancer patients.

2. To improve brachytherapy technology (used mainly for cervical cancer treatment).

3. To develop the skills of radiotherapists, medical physicists and radiographers, and to introduce new technology.

4. To improve the planning treatment techniques for tumour localization, treatment planning, verification, dosimetry and quality control.

PROJECT IMPLEMENTATION AND MONITORING

The Technical Officer of the project will visit Mongolia in late 1994 to discuss the project details, assess the overall cancer treatment situation in the country and identify its needs. In 1995 a radiotherapist will be trained for three months in the use of teletherapy and brachytherapy machines and a medical physicist will be trained for three months. In 1996 a clinical dosimetrist will be trained for three months in radiotherapy dose calculations. A senior staff member will undertake a scientific visit in 1995 to radiotherapy centres in the region. A brachytherapy machine will be provided in 1995 together with some monitoring equipment, and in 1996 a teletherapy machine will be supplied and installed. On-the-job training on these machines will be given by Agency experts.

Monitoring the progress of the project will be undertaken by the Project Officer and/or Technical Officer in collaboration with the Atomic Energy Authority, and by the WHO representative and the UNDP Office in Ulan Bator. An annual progress report will be prepared by the Centre, submitted to the Ministry of Health, and copied to the Agency and to the UNDP and WHO offices in Ulan Bator. The report will be discussed at an annual meeting of the parties concerned, including representatives of the Agency and

national institutions. Upon completion of the projects, a seminar will be held in Ulan Bator for final evaluation of project activities, including discussion of the main achievements and the socioeconomic impact of the project. A model project final report will be prepared by the Agency on the basis of the seminar papers.

NATIONAL COMMITMENT

The Government's current health programme includes a national cancer control programme closely connected with this project, in which the State Oncological Research Centre is participating in collaboration with the State Inspectorate of Hygiene and Epidemiology. The Government also supports the Centre by allocating funds, appointing medical and paramedical staff, and supplying maintenance service for the apparatus currently in use. Adequate premises, radiotherapists, medical physicists and other technical staff are available. The existing accommodation may need to be refurbished to make it suitable for the new equipment to be provided.

IMPACT

Halting the deterioration of radiotherapy services at the only cancer research centre in Mongolia will have an immediate beneficial effect on the quality of treatment to cancer patients (the end users). New teletherapy and brachytherapy facilities, improved planning techniques and the establishment of the capability needed for effective utilization of this nuclear medical technology will herald a new phase at the State Oncological Research Centre. The old Russian equipment, most of which is no longer functioning, will be replaced. More cancer cases will be treated; lives will be saved and survival periods extended. Brachytherapy facilities will benefit the health of women.

FINANCES

The budget allocation for the project is US $360,200, distributed as follows:

Year	Experts		Equipment	Fellowships		Scientific visit		Grp trg.	Sub-contr.	Misc. Comp.	Total
	M/D	US $	US $	M/D	US $	M/D	US $	US $	US $	US $	US $
1995	1/0	11,400	100,000	6/0	19,800	-/15	6,300	-	-	-	137,500
1996	1/0	12,000	190,000	6/0	20,700	-	-	-	-	-	222,700
Total	2/0	23,400	290,000	12/0	40,500	-/15	6,300	-	-	-	360,200

Source of funding: TACF